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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/839,462	04/20/2001	Per-Olof Brandt	34650-00591USPT	2462

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EXAMINER

MILORD, MARCEAU

ART UNIT	PAPER NUMBER
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2682

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No

09/839,462

Applicant(s)

BRANDT ET AL.

Examiner

Marceau Milord

Art Unit

2682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4, 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita (US Patent No 6047167) in view of Walczak (US Patent No 5412341).

Regarding claims 1 and 4, Yamashita discloses a method for controlling a power amplifier in a power amplifier system (figs 1-3 and 5), said power amplifier system including a feedback loop, the method comprising the steps of: receiving a first RF signal at a power amplifier; providing a control signal to the power amplifier, the control signal for controlling gain of the power amplifier; providing a gain component to the feedback loop (col. 2, line 62-col. 11; col. 3, line 53-col. 4, line 13).

However, Yamashita does not specifically disclose the steps of providing a gain component to the feedback loop, the additional gain component to the control signal; and

Art Unit: 2682

outputting a second RF signal from the power amplifier, a power level of the second RF signal based on the gain provided from the control signal.

On the other hand, Walczak, from the same field of endeavor, discloses a power controller for a power amplifier that exhibits an output power threshold, including a detector circuit that detects an output power level to provide a level signal when the radio frequency power amplifier has achieved the output power threshold, and a comparator apparatus that combines a reference signal and the level signal to provide a control signal that is arranged to establish the output power level, and a generator function that provides the comparator apparatus a substitute level signal until the amplifier has achieved the output power threshold (col. 3, line 61- col. 4, line 58). Furthermore, the power controller is a high gain element that is employed in a feedback power control loop configuration. This second feedback loop produces a substitute level signal, specifically a change in signal level at the input in response to a change at the output. The second feedback loop is substantially closing the feedback power control loop until the voltage on the control input reaches the turn on or threshold voltage of the amplifier. This second feedback loop minimizes any turn on transients that may result as a result of the power controller operating in the open loop mode during the time period required for the amplifier to achieve the output power threshold. In addition, the signal at the input is the clock signal which causes the up/down counter to change states or count. The frequency of the clock signal controls the time it takes the up/down counter to count between the high and low thresholds (col. 5, line 49- col. 6, line 68). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Walczak to the communication system of Yamashita in order to achieve the output power threshold.

Art Unit: 2682

Regarding claims 8-10, Yamashita discloses a power amplifier system (figs. 1-3 and 5) comprising: a power amplifier for amplifying a signal; and a control circuit for controlling said power amplifier, said control circuit including a feedback loop for sensing a parameter proportional to output power of said power amplifier; an error amplifier (105 of figs. 1-2; 5 of fig. 3; col. 2, line 62- col. 3, line 11) for receiving the parameter and outputting a control signal to the power amplifier (col. 3, line 53-col. 4, line 13; col. 4, line 51- col. 5, line 26).

However, Yamashita does not specifically disclose the features of an additional circuitry for adding a gain component to said feedback loop, the gain component for maintaining the feedback loop in an active state at all times, wherein said gain component is proportional to the control signal.

On the other hand, Walczak, from the same field of endeavor, discloses a power controller for a power amplifier that exhibits an output power threshold, including a detector circuit that detects an output power level to provide a level signal when the radio frequency power amplifier has achieved the output power threshold, and a comparator apparatus that combines a reference signal and the level signal to provide a control signal that is arranged to establish the output power level, and a generator function that provides the comparator apparatus a substitute level signal until the amplifier has achieved the output power threshold (col. 3, line 61- col. 4, line 58). Furthermore, the power controller is a high gain element that is employed in a feedback power control loop configuration. This second feedback loop produces a substitute level signal, specifically a change in signal level at the input in response to a change at the output. The second feedback loop is substantially closing the feedback power control loop until the voltage on the control input reaches the turn on or threshold voltage of the amplifier. This

Art Unit: 2682

second feedback loop minimizes any turn on transients that may result as a result of the power controller operating in the open loop mode during the time period required for the amplifier to achieve the output power threshold. In addition, the signal at the input is the clock signal which causes the up/down counter to change states or count. The frequency of the clock signal controls the time it takes the up/down counter to count between the high and low thresholds (col. 5, line 49- col. 6, line 68).

3. Claims 5-7, 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita (US Patent No 6047167) in view of Walczak (US Patent No 5412341) as applied to claims 1 and 8 above, and further in view of Liimatainen (US Patent No 6370364).

Regarding claims 5-7, 11-12, Yamashita and Walczak disclose everything claimed as explained above except the features of a power amplifier system that is utilized in a mobile terminal of a wireless communications system; and wherein said wireless communications system operates in accordance with GSM specifications.

However, Liimatainen discloses a method for determining a calibration value for a RF power control loop. Liimatainen shows in figures 1 and 2, a wireless user terminal or a mobile station that includes an antenna for transmitting signals to and for receiving signals from a base site or base station (col. 5, line 21- col. 6, line 29). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Liimatainen Walczak to the communication system of Walczak and Yamashita in order to provide a method for aligning the RF power control loop of a wireless communicator.

Art Unit: 2682

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marceau Milord whose telephone number is 571-272-7853. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MARCEAU MILORD-----

Marceau Milord
Primary Examiner
Art Unit 2682


MARCEAU MILORD
PRIMARY EXAMINER

5-30-05